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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/720,330  
Filing Date: November 24, 2003  
Appellant(s): MCCORMICK, JAMES

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Kevin Kercher  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 18 February 2008 appealing from the Office action mailed 15 November 2007.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

US 5,856,176	Mathus et al	05 January 1999
US 5,240,854	Berry et al	31 August 1993
US 4,440,301	Intengan, Franklin	03 April 1984

**Mathus** is directed to a system of stackable tissue processing cassettes comprising a first cassette capable of accommodating a histological specimen. A second cassette is interlocked with the first cassette such that the bottom of the second cassette is in communication with the top opening of the first cassette. A plurality of apertures extend through the bottom wall of the second cassette.

**Berry** is directed to a system of stackable cell culture chambers. Apertures in the top and bottom surfaces of each chamber are used to transfer a liquid nutrient medium uniformly between the chambers.

**Intengan** is directed to a system of stackable tissue processing cassettes that comprise an interlocking means capable of permitting the cassettes to be snapped together.

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

1) Claims 6 and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathus (US 5856176) in view of Berry (US 5240854).

Mathus discloses a system of stackable tissue processing cassettes comprising a first cassette (Figure 1:20) that includes a bottom wall (Figure 1:22), a front wall, a back wall, and side walls forming a first container. This is described in column 2, line 50 to column 3, line 20. Column 4, lines 25-45 state that it is desirable to stack multiple cassettes without lids on top of each other, and column 5, lines 52-56 state that stacked cassettes include a plurality of apertures along the base walls and side walls to facilitate air circulation between the cassettes. However, it is unclear if these apertures are sufficient to allow liquids to flow from one cassette to the other.

Berry discloses a plurality of stackable cell processing cassettes. Each cassette includes a cell culture chamber (Figure 2:24). Liquids in one culture chamber are allowed to communicate with liquids in other culture chambers using a plurality of apertures (Figure 2:20) in the base walls. This is described in column 2, line 67 to column 3, line 36.

Mathus and Berry are analogous art because they are from the same field of endeavor regarding stackable cell culture containers.

At the time of the invention, it would have been obvious to ensure that the base wall and side wall apertures disclosed by Mathus are capable of allowing liquids to flow between adjacent cassettes. This would have been beneficial because it would have allowed each cassette to receive fluid medium at a uniform and identical flow rate. Since each of the cassettes would share fluid medium, culture conditions in each stacked cassette would remain consistent.

2) Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathus (US 5856176) in view of Berry (US 5240854) as applied to claim 6, and further in view of Intengan (US 4440301).

Mathus and Berry disclose the apparatus set forth in claim 6 as set forth in the 35 U.S.C. 103 rejection above, however, do not expressly disclose that the cassettes comprise a locking engagement that snaps together while providing a sensory effect.

Intengan discloses a stackable cassette that includes flexible leafs (Figure 5:50) and bosses (Figure 5:62) designed to interact with the leafs and bosses of similar cassettes when stacked. Column 2, lines 3-14 and column 3, line 40 to column 4, line 5 state that the leafs are flexible in nature, and that the leafs and bosses are “snapped” together in order to create a

locking arrangement between multiple cassettes. It is known in the art and it is common knowledge that a “snapping” action produces an audible, sensory effect that signifies when a locking arrangement has been formed.

Mathus, Berry and Intengan are analogous art because they are from the same field of endeavor regarding stackable cassettes for biological samples.

At the time of the invention, it would have been obvious to ensure that the components of Mathus were flexible and capable of interlocking using a snapping action. In column 2, lines 8-14, Intengan teaches that this arrangement is beneficial because it allows the cassettes to be frictionally held together so that the cassettes will remain in an organized stack. In this way, the cassettes are arranged in an orderly fashion, and will be less prone to contamination and leakage during storage. The snapping action of the engagement between leaf and boss is also desirable because it produces an audible effect that verifies that a tight lock between cassettes has been produced.

#### **(10) Response to Argument**

**Claims 6 and 10-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathus (US 5856176) in view of Berry (US 5240854).**

*Appellant's principle arguments are*

#### **Independent Claim 6**

*(a) On page 6, Mathus does not disclose apertures sufficient to allow liquids to flow from one cassette to the other. It is very clear in Mathus that liquids flowing between petri dishes create a tremendous problem. Mathus recites “the circulation of air can limit the development*

*of condensation between adjacent dishes, and prevent a vacuum and fluid lock between the dish and a surface on which it is disposed, such as another dish on which it is stacked, The spaces prevent a layer of fluid from building up between the base and the surface, and this allows for uniform temperature distribution across the bottom of the upper dish, and avoids condensation build up and creation of a fluid or vacuum lock between the dishes.” Therefore, Mathus clearly teaches and specifically instructs someone not to allow liquid (paraffin or otherwise) to flow between containers.*

In response to Appellant’s arguments, please consider the following comments.

It is first noted that Applicant is arguing the intended use of the system claimed. The system in the prior art is considered to be fully capable of allowing “liquid paraffin to flow from one of the first and second containers and into the other of the first and second containers while the first and second cassettes remain interlocked”. Furthermore, the lines cited by Appellant do not teach away from moving a liquid from a second cassette to a first cassette using bottom wall apertures of the second cassette when the cassettes are stacked. This citation merely states that fluid should not be allowed to accumulate between the bottom of a second cassette and the top of a first cassette. These lines do not discourage one from using apertures to directly transfer a fluid from the interior of the second cassette to the interior of the first cassette. The combination suggested in the rejections above would not result in result in the build up of a layer of fluid between stacked cassettes because (1) the apertures would move fluid from the second cassette to the first cassette rather than from the first cassette to an area between the second and first cassettes, and (2) because in the configuration proposed by Mathus, there would not even be any space between the bottom of the second cassette and the top of the first cassette for the fluid to



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accumulate and create a fluid lock between the dishes. In column 4, lines 25-45, Mathus states that it is desirable to stack multiple cassettes without lids on top of each other. If the first cassette has no lid when the second cassette is stacked upon it, then there can be no condensation build up between the cassettes. The bottom of the second cassette does not interact with the top of the first cassette because the top lid of the first cassette has been removed prior to stacking. Liquids moving through the apertures of the bottom of the second cassette will directly and immediately be introduced to the interior of the first cassette, and will not create a condensation build up between the cassettes.

*(b) On page 7, Berry does not disclose a second cassette comprising a plurality of apertures along a bottom wall. A critical feature of Berry is to allow passage of fluid through a container but prevent the passage of liquid between stacked containers.*

In response to Appellant's arguments, please consider the following comments.

Berry is not relied upon for teachings regarding the use of a plurality of apertures along the bottom wall of a second cassette because this is clearly disclosed by Mathus. It still must be noted that while Berry does teach the use of a plurality of "apertures" located between stacked cassettes, Berry does disclose that bores (42, 44) are formed through each cassette in order to encourage the movement of fluid from one cassette to another. Berry teaches in column 5, lines 20-30 that fluid medium passes into the associated growth chambers, and flow is distributed continuously and thoroughly to all surfaces of the growth chamber." Based on these teachings, it would have been obvious to ensure that the base wall and side wall apertures disclosed by Mathus are capable of allowing liquids to flow between adjacent cassettes. This would have

been beneficial because it would have allowed each cassette to receive fluid medium at a uniform and identical flow rate. Since each of the cassettes would share fluid medium, culture conditions in each stacked cassette would remain consistent.

**Dependent Claim 10**

*(a) On page 11, as shown in Figure 4 of Mathus, there are no openings in the base 22. The use of a plurality of apertures is completely absent from Mathus. In Berry, although liquid enters a common inlet and exits a common outlet, the containers are sealed.*

In response to Appellant's arguments, please consider the following comments.

It is true that Figure 4 does not depict the use of a plurality of apertures arranged at the bottom of the first cassette. However, Mathus discloses in column 5, lines 50-56 that apertures are provided along the base of each cassette. Mathus teaches that the base of a cassette will include apertures during stacking since the base of a second cassette will function as the lid of the first cassette. When the first cassette is stacked on top of another cassette, it is clear that the first cassette will comprise apertures just as the second cassette includes apertures when it is stacked on top of the first cassette.

Even if Mathus did not disclose apertures at the bottom of each cassette, it would have been obvious to create apertures in this manner upon review of the teachings of Berry. As noted already, Berry teaches that liquids in one culture cassette are allowed to communicate with liquids in other culture cassette using a plurality of bores (Figure 2:20) in the base walls (see column 4, lines 29-44). This would allow each stacked cassette in Mathus to receive fluid

medium at a uniform and identical flow rate. Since each of the cassettes would share fluid medium, culture conditions in each stacked cassette would remain consistent.

**Dependent Claim 11**

*(a) As shown in Figures 1 and 2 of Mathus, there are no openings in the sidewalls of the first cassette. The use of a plurality of apertures is completely absent from Berry.*

In response to Appellant's arguments, please consider the following comments.

It is true that Figures 1 and 2 of Mathus do not depict the use of a plurality of apertures arranged at the sidewalls of the first cassette. However, Mathus discloses in column 5, lines 50-56 that apertures are provided along the base sidewalls of each cassette. Berry is not relied upon to show this feature.

**Dependent Claim 12**

Appellant does not provide any additional arguments related to the limitations in dependent claim 12 other than the ones discussed above for independent claim 6.

**Independent Claim 13**

Appellant provides the exact arguments for claim 13 as for claim 6 which have been fully addressed and responded to above. The responses above for the arguments of claim 6 are relied upon here for claim 13.

**Dependent Claim 14**

*(a) On page 21, neither Mathus nor Berry disclose a histological specimen.*

In response to Appellant's arguments, please consider the following comments.

Independent claim 13 and dependent claim 14 do not positively recite "a histological specimen" as a limitation. The independent claim merely states that "a histological specimen can be placed within the first container." There is no doubt that a histological specimen could be placed in the Mathus apparatus. The dependent claim merely states that "the bottom wall of the second cassette closes the top opening of the first container to prevent the histological specimen from exiting the first container." The apparatus in Mathus is also fully capable of preventing a histological specimen from exiting the first container. This is especially true since Mathus is directed to the art of cell culture.

**Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mathus (US 5856176) in view of Berry (US 5240854) as applied to claim 6, and further in view of Intengan (US 4440301).**

Appellant's principle arguments are

**Dependent Claim 7**

*(a) There is no plurality of apertures of the bottom wall of the second cassette to allow liquid paraffin to flow from one of the first and second containers and into the other of the first and second containers in Intengan. Intengan is a reagent slide having a circular indentation to hold biological fluid, therefore, there is a lack of identifiable front, back and side walls.*

In response to Appellant's arguments, please consider the following comments.

The limitations of the plurality of apertures of the bottom wall of the second cassette as claimed is fully met by the references Mathus and Berry as discussed above. As the limitation of

front, back and side walls, these are also fully met by the references Mathus and Berry as discussed above. Intengan is cited to merely to show that it is known in the art to provide cassettes which comprise a locking engagement that snaps together while providing a sensory effect.

**Dependent Claim 8**

*(a) The Examiner acknowledges that the creation of an audible sound upon the snapping together of the first and second cassettes is not found in the cited prior art. There is no objective evidence of record that would lead an individual of ordinary skill in the art to modify Intengan to create a snapping sound.*

In response to Appellant's arguments, please consider the following comments.

It is true that Intengan does not precisely state that an audible sound is created when the first cassette is connected to the second cassette. However, one of ordinary skill in the art at the time of the invention would readily recognize that this is the case since Intengan does note that the two cassettes are "snapped" together. (Column 2, lines 3-14 and column 3, line 40 to column 4, line 5). It is important to remember that "to snap" means "to make a sudden, sharp, distinct sound." When the cassettes of Intengan are "snapped" together, they must make an audible sound upon completion.

*(b) On page 24, the Examiner cites benefit in Intengan of less contamination and leakage for storage, yet leakage and contamination between containers is mandated by Applicant's claim.*

In response to Appellant's arguments, please consider the following comments.

As previously described above, Mathus and Berry each disclose devices with the capability of allowing paraffin to flow from one container to the next through apertures in the bottom of the container. The flow of the paraffin is through defined apertures in bottom of the containers. However, providing leakage and containment from materials from the sides of the containers is still desirable. One of ordinary skill in the art would understand that while you do want the flow of nutrients between containers, it would still be beneficial to restrict leakage of other critical specimens, nutrients and products from the containers.

**Dependent Claim 9**

*(a) Intengan does not teach that the cassettes move in a perpendicular direction to each other for attachment, but rather slide together in parallel.*

In response to Appellant's arguments, please consider the following comments.

Intengan is relied upon for teachings stating that it is beneficial for stacked cassettes to produce an audible snapping noise upon connection. Intengan is not relied upon for teachings regarding the movement of the second cassette relative to the first cassette since Mathus already teaches that the second cassette is moved relative to the first cassette in a direction perpendicular to the first cassette. Even so, Intengan states in column 3, line 66 to column 4, line 5 that "in order to permit the slides to be snapped together into their interlocked position along an axis perpendicular to the plane of the planar body 14 (illustrated by arrows B), one or both of the inner edges 52 of ribs 50 and the outer edges 62 of grooves 60 may be beveled. Figure 2 shows that movement as depicted by arrow B is perpendicular to the planar upper face of the first cassette.

*(b) On page 27, the Examiner cites benefit in Intengan of less contamination and leakage for storage, yet leakage and contamination between containers is mandated by Applicant's claim.*

In response to Appellant's arguments, please consider the following comments.

As previously described above, Mathus and Berry each disclose devices with the capability of allowing paraffin to flow from one container to the next through apertures in the bottom of the container. The flow of the paraffin is through defined apertures in bottom of the containers. However, providing leakage and containment from materials from the sides of the containers is still desirable. One of ordinary skill in the art would understand that while you do want the flow of nutrients between containers, it would still be beneficial to restrict leakage of other critical specimens, nutrients and products from the containers.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Nathan A Bowers/

Examiner, Art Unit 1797

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Romulo Delmendo (Conferred on Jan. 8, 2008)